Feasibility (30%) Design

Goose Bay Marina Concession Area Modernization Study

Prepared by:

USDA Forest Service TEAMS Enterprise Unit and
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for:

Bureau of Reclamation
Pick-Sloan Missouri Basin Program
Canyon Ferry Unit - Montana

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Introduction

The purpose of this document is to provide a Feasibility (30%) Design for modernized replacement facilities at Goose Bay Marina.

Background

The Goose Bay Marina Concession at Canyon Ferry Reservoir, Broadwater County, Montana, has been in existence since the early 1960's. The concession area is located north of Goose Bay in the SW¼NE ¼ and E½NE¼ of Section 14, T. 9 N., R 1 E., MPM. Originally administered by the State of Montana, recreation management and concession oversight at Canyon Ferry was turned back to the Bureau of Reclamation (Reclamation) in 1993.

In 2010, the Draft Goose Bay Recreation Master Plan was completed by Reclamation. The purpose of the plan was to define the future concession and recreation opportunities that would be provided within the Goose Bay Planning Area. Through a thorough analysis process and with consideration of public comments, Alternative C was selected as the best option for the site. This alternative included the following suggested facilities and services:

- Store with Dock and Fuel
- Updated Potable Water System
- Updated Septic Systems
- RV Campsites (full service, electrical service only, and no service)
- Laundry
- 4 Park Cabins
- 3 Picnic Shelters
- Group Pavilion
- Replacement Docks
- Courtesy Dock
- Dry Camps (Tent Sites)
- Accessible Fishing Access
- Interpretive Signs
- Fee Stations
- Campground Host Residence

In addition to the above, Reclamation has also added an RV dump station, flush toilets and showers, vault toilets, a potable water fill station, updated electrical supply system, year-round storage for boats and RVs, a potential fish cleaning station, overnight boat trailer storage area, and day use / picnic areas to the planned facilities at the site.

The existing concessionaire contract expires on December 31, 2012 and the existing 31 mobile homes that are authorized under the current concession contract will be removed as required by 43 CFR Part 429 Subpart H due to compliance issues. The Omnibus Consolidated Appropriations Act of 1998, Public Law 105-277, 112 Stat. 2681, Title X (Canyon Ferry Reservoir, Montana) provides Reclamation with direct authority to investigate, plan, develop, operate, and maintain recreation facilities on land withdrawn or acquired for development of the project and to provide for public use and enjoyment of the land and water areas of the project.

In December 2012 a Conceptual Project Approach to Schematic Design was prepared and submitted to Reclamation. The document included three potential approaches to a schematic layout at the site (layouts A, B, and C) with the option to institute a low, medium, or high level of development within any of the three layouts. With the exception of the existing well, new boat ramp, and concrete vault toilets in good condition, it was assumed that all existing improvements would be removed from the concession area, including all of the mobile homes, the store, the residence, and most utilities. The schematic layouts primarily focused on the existing developed

area without significant expansion into the northern portion of the undeveloped / dispersed use area located to the west.

The December 2012 deliverable was presented to the public at a meeting held on January 30 and 31, 2013. Comments were solicited and received from the public.

In February 2013, Reclamation selected "Layout A" from the layouts provided in December 2012 and presented at the public meeting in January 2013. Reclamation requested a feasibility design at the low level of development (showing expansion areas for the high level build out), including layout of marina facilities, roads, trails, camping pads, parking lots, landscaping, electrical, water, wastewater systems, and other site development.

Feasibility (30%) Design

Level of Development

A low level of development and a potential phased expansion to a high level of development were included in this feasibility design. The following table presents the site components included in each level of development.

Table 1. Proposed Levels of Development at Goose Bay Marina Concession Area

Low Level Development	High Level Development
Store Approximately 425 SF – year round availability (with deeper water line) (single phase power and propane heat).	**Contact Center** Approximately 825 SF – increased retail and interpretation space, larger office. Year round availability, increased food services – more refrigerators and microwaves (no hoods, grills, or stoves) (deeper water line and single phase power and propane heat).
Self-Pay Fee Station Fee-tube and single panel sign are provided.	**Self-Pay Fee Station** Along with a fee-tube, minimal site orientation signage and interpretive information with Reclamation message.
Fueling Station 1,000 AST for vehicles with an option for the concessionaire to expand to on-water fueling for boats.	**Fueling Station** Along with fueling provided in low level of development, additional fueling tank located at the RV Dump Station.
Fee-Based Shower Facility 4 unisex shower stalls (1 building)	**Fee-Based Shower Facility** 8 unisex shower stalls (2 buildings). PLUS laundry.
Flush Toilets Located in shower building – 6 stalls: 3 Men, 3 Women (1 building)	**Flush Toilets** Located in shower buildings – 12 stalls: 6 Men, 6 Women (2 buildings)
Fee-Based RV Dump Station Located away from highly frequented areas. With holding tank only.	**Fee-Based RV Dump Station** In addition to low level of development design, a leachfield and lighting is provided.

Low Level Development	High Level Development
Central Trash / Recycling Center Dumpsters and recycling options are available throughout the site.	**Central Trash / Recycling Center** Unchanged from low level of development.
Potable Water Fill Station Designed to fill RV holding tanks and water containers for visitors staying at sites without water hookups, visitors staying in tents, and visitors utilized day-use area.	**Potable Water Fill Station** Unchanged from low level of development.
Day Use Area Picnic tables and fire grills Picnic shelters Accessible shoreline trails	**Day Use Area** Along with amenities provided in low level of development: Large group day use pavilion and group cooking area with power and lights at boat ramp Day use pavilion located south of the electrical-only loop and equipped with power and lights. Interpretive kiosks with Reclamation message
Group Camping Areas Located within camping areas to facilitate group camping opportunities. Group camping pavilions including picnic tables, fire ring, and grill are provided.	**Group Camping Areas** Low level of development amenities plus one additional group use area in expansion camping loop and power provided to group camping pavilion located in the no-services western loop.
Residence Concessionaire/host site designed for someone to bring in their own living quarters (e.g. RV or trailer). In addition, a satellite host site has been included with potential to sell firewood or provide additional management support. Both sites are provided with electrical, water and sewer hookups.	**Residence** Low level of development residences plus a structure/shelter at the satellite host to store fire wood, etc.
94 Sites (not including residence sites) 45 Full Service 29 Electric Service only 20 No Service	**145 Sites (not including residence sites)** 92 Full Service 29 Electric Service only 20 No Service 4 cabins / yurts with electrical service only
Tent sites 8 walk-in configuration with parking	**Tent sites** Unchanged from low level of development.
Inspection Station Widening of entrance road with pull off shoulder location identified for potential future invasive species inspection station equipped with power. No facilities constructed.	**Inspection Station** Widening of entrance road with pull off shoulder location identified for potential future invasive species inspection station equipped with power. Permanent facility matching the site architecture for boat inspection staff.
Fish Cleaning No fish cleaning station.	**Fish Cleaning** Full fish cleaning station with appropriate infrastructure and leachfield as required by the State of Montana.

Low Level Development	High Level Development
Boat Ramp and Parking Maintain and keep existing boat ramp and parking with slight modification to traffic flow and site amenities (e.g. vault toilets).	**Boat Ramp and Parking** In addition to maintaining the boat ramp and parking as designed in the low level of development, additional lighting around the ramp, parking area, and associated services is provided.
Loading Dock for Boat Ramp Location identified for concessionaire-provided loading dock at boat ramp.	**Loading Dock for Boat Ramp** Unchanged from low level of development.
Docks Location and improved access routes identified for mooring docks.	**Docks** Unchanged from low level of development.
Water Accessibility Establishment of accessible: Water access route Mooring docks Shoreline fishing opportunities Trails Geogrid matting fishing trail	**Water Accessibility** Along with low level development access, additional establishment of concrete accessible fishing pier.
Drinking Water Hydrants Dispersed throughout campground and day use areas as required by design guidelines. Hydrants are not provided in the no-services western loop.	**Drinking Water Hydrants** In addition to the hydrants provided in the low level of development, hydrants are also provided in the additional full-service loop.
Vault Toilets Dispersed throughout campground and day use areas as required by design guidelines.	**Vault Toilets** In addition to the vault toilets provided in the low level of development, vault toilets are also provided in the additional full-service loop and near the cabins/yurts and the accessible fishing pier.
Water System Updates include all new distribution lines, possible treatment, storage, and winterization with deeper lines for one toilet/shower building, store, and concessionaire host residence site. The hydropneumatic tanks housed in the treatment building will be utilized for winter operations and the main storage tank will only be for seasonal use. All infrastructure for future expansion to high level of development with the exception of a storage tank are included in the low level of development.	**Water System** In addition to low level amenities, expansion of water to northern expansion loop and fish cleaning station along with an additional storage tank and treatment unit.
Septic Systems Multiple septic systems for the campsites with sewer hookups, toilet/shower building, store, and residence are provided. All septic systems are under the regulatory value of 5,000 gallons per day and should not require a groundwater discharge permit.	**Septic Systems** All septic systems provided in the low level of development plus two additional septic systems for the campsites in the northern expansion loop, an additional septic system for the additional toilet / shower / laundry facility, a septic system for the RV dump station, and a septic system for the fish cleaning station. As in the low level of development, all septic systems are under the regulatory value of 5,000 gallons per day and should not require a groundwater discharge permit.

Low Level Development	High Level Development
Year-Round Boat and RV Storage Fenced with capacity for 36 60-ft spaces	**Year-Round Boat and RV Storage** Capacity remains unchanged from the low level of development; however, the area is covered with power and lighting provided.
Overnight Boat Trailer Parking Capacity for 22 75-ft spots	**Overnight Boat Trailer Parking** Unchanged from low level of development.
Maintenance / Storage Building 100 SF – remote location (light and power, but no water). Pre-fabricated structure matching architecture as close as possible.	**Maintenance / Storage Building** 400 SF – remote location (light and power, but no water). Site built structure integrated with site architecture and character.
Dispersed Camping Areas Identification of dispersed camping areas outside the designated development.	**Dispersed Camping Areas** Unchanged from low level of development.
Additional Site Power 50 AMP service provided at all electrical and full hookup sites. 200 AMP service at store, 125 AMP service at toilet/shower building, 60 AMP water system building Miscellaneous site power at pavilions and the head of the eastern-most gangway at the water's edge.	**Additional Site Power** Same power provided in low level with the following additions: 200 AMP for new shower/toilet/laundry building, 50 AMP service at additional full-hookup sites Miscellaneous site power and lighting provided at pavilions and at the head of the western gangway at the water's edge.
Site Lighting No site lighting provided.	**Site Lighting** Some site lighting provided primarily by the store, fish cleaning area, dump station, inspection station area, flagpole, and site entrance sign.
Tree Planting Minimal tree planting at limited strategic locations with irrigation. 140 trees shown in feasibility design.	**Tree Planting** Additional tree planting throughout the site with irrigation. 210 trees shown in feasibility design.

Recreational Site Design Guidelines Used

The Recreation Site design considerations are based on Forest Service Guidelines, FSM 2333 – Site and Facility Planning and Design – May 2006, Reclamation's Recreation Facility Design Guidelines – September 2002 and professional knowledge of the specialists. A few of the relevant assumptions are listed below:

- The national standard of 5 persons at one time (PAOT) per family picnic/camp unit
- 35 PAOT per toilet hole
    - Camping capacity
        - 7 double vault toilets = 14 holes x 35 PAOT = 490 PAOT
        - Low level build out = 94 sites x 5 PAOT = 470 PAOT
    - Day use capacity
        - 6 flush toilet stalls and 2 single vault toilets in boat parking area
        - 8 holes x 35 PAOT = 280 PAOT
- Maximum distance a user should have to travel to a toilet is 500 feet

The low level design includes three main areas, no service, electrical service only and full service in separate loops. The high level design includes an additional full service loop. It is assumed that visitors using the no service and electrical service only loops would be staying a shorter

period of time and would rely more heavily on the site amenities such as toilets/showers and the store, and thus are located near the main hub. The full service sites are tucked back into the site to the east. This layout will minimize traffic flow through the full service campground loops that are assumed to generally attract visitors staying longer periods of time.

Three group campsites were identified in the low level design, one in the no service loop, one in the electrical only loop, and one in the full service loop. An additional group campsite is provided in the high level development in the additional loop. Each has five to seven campsites and a central group shelter. These sites could be reserved as group sites, or used as individual sites, depending on demand.

Water Access

The recommended access to the boat slips is an 80' gangway from a shoreline structure to the floating docks. The gangway would fluctuate along the floating docks with changing water levels. Per Figure 1, gangways to a floating dock that are at least 80 feet long are exempt for the ADA slope and rise requirements – See Boating Facilities Guide: http://www.access-board.gov/recreation/guides/

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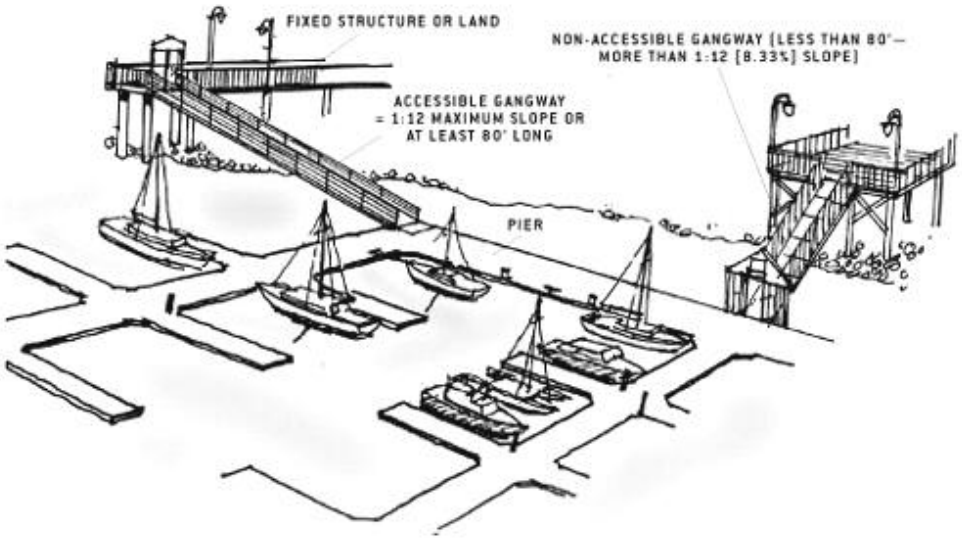
Figure 1. Water Accessibility for Gangways to a Floating Dock



Concession Operation Considerations

By moving the main "hub" with the concession store, flush toilet/shower facility and concession residence out near the main entrance and boat ramp area, the concessionaire will be better able to serve all potential customers, and enhance revenue opportunities by being visible and available to day-use visitors that may not venture past the boat ramp parking area.

Due to the large number of sites, a second campground host location has been identified in the full service campground loop with the option of placing a small satellite concession store. This would allow the host to sell items such as cold drinks, packaged snacks, fishing supplies,

firewood, etc. This would provide an additional level of service to the visitors camping in the full service area.

The concession contract would specify the season of use, it is anticipated that peak use would be during the summer months, May – September. A portion of the full service sites may be allocated as "seasonal" campsites; however, no year-round use would be authorized. Consideration for minimal year-round use of the store and toilet/shower facilities and electrical service loop was incorporated into the design to accommodate potential use during the hunting and ice fishing season.

Site Work Considerations and Assumptions

Interior trails are provided to promote easy access to site amenities from camping area. Shoreline trails are provided for water accessibility and fishing. All trails will be composed of crusher fines over a geotextile fabric. Timber borders will be utilized on downhill sides of appropriate locations to minimize erosion potential. Direct water access routes will be composed of geogrid mats.

Grading has not been established on the site for this feasibility design. Grading should be considered during the value engineering for this project and diversion channels, culverts, drains, and other water control measures may be need to avoid runoff from upgradient property through developed areas and campsites. It is highly recommended that a detailed grading plan be prepared by a licensed professional engineer prior to any construction at the site.

Site turning radiuses for roads within the site were established based on a 45-foot recreational vehicle. Fifth wheels are designed for 20-foot truck pulling a 45-foot trailer. 40-foot radiuses were used in camping spurs and 50-foot radius where used at intersections.

Two-way roads were designed at 24 feet wide and single-direction roads were designed at 14 feet wide. Round-abouts were utilized to promote smooth traffic flow patterns and facilitate additional expansion. Round-abouts were designed at 20 feet wide lanes.

Water System Considerations and Assumptions

The following subsections present the design considerations and assumptions for the water system components included in the low level of development as well as the high level of development in this feasibility design. For purposes of design, it was assumed that all existing water system components and connected piping would be removed from the site to 3' below ground. All existing underground water lines would be abandoned in place. It was also assumed that the building above the existing well head would be removed. Furthermore, it is assumed that the existing well will be used and will yield approximately 8gpm minimum and Reclamation owns sufficient water rights to supply this development. The existing well is assumed to be Ground Water Under the Direct Influence of Surface Water (GWUDI) and require treatment as a surface water source. The initial design assumes bag filter systems and chlorine disinfection installed in the treatment building to address this. If the well proves to have insufficient yield, or it is desired to avoid surface water treatment, a new well with a minimum draw depth of 100' located further from the reservoir may be required. The provided cost of [redacted] for a new well may be partially offset by savings of approximately [redacted] for removal of the surface water treatment equipment from the treatment building. The water system is assumed to be a transient non-community public water system, and as such would not require a backup water source, or storage beyond that required for contact time or to balance daily demand fluctuations.

Low Level Development

The following components were included in the low level development feasibility design:

- The existing well building will be removed, concrete pad installed around the well casing, water tight cap installed, and well area protected with fence or other barriers. A pitless adapter is recommended. .
- Maximum occupancy estimated at 96 RV Sites times 5 people per siteequals 480 people.
- Water demand estimated at 100 gpd for full service RV sites, 50 gpd for other RV sites, total 7,050 gpd. Showers estimated use at 4 hrs per day (2 hours in evening, 2 hours morning), total 2,400 gpd. Flush Toilets and Sinks estimated at 1.5 uses/day/person at 2 gal/use, total 1,440 gpd.
    - Maximum daily demand approximately 11,000 gpd
- Potable water storage: minimum estimated required volume is 5,000 gallons, recommend 10,000 gallons. Actual tank size required will depend on tested well yield and the final treatment system contact time requirements. No fire storage is required
- Part of the system will be shut down for the winter months and require sufficient drains to winterize the system.
    - The flush toilets, store, and host site will require water service in the winter. Associated water lines will be below frost depth.
- The water treatment building will house booster pumps to supply the full service loop, and central hub buildings and host; potential treatment system; and pressure tanks to provide limited winter service. The building will be insulated and heated.
- Approximate water pipe required:
    - 3” mains = 800 LF
    - 3” main (below frostline) = 1300 LF
    - 2” lateral = 3,100 LF
    - 2” lateral (below frostline) = 900 LF
    - 1” lateral = 3,700 LF
    - 1” lateral (below frostline) = 300 LF.
- 6 potable hydrants to be installed at vault toilet sites.

High Level Development

The following components were included in the high level development feasibility design:

- Water demand estimated at 100 gpd for additional 47 full service RV sites, 4,700 gpd. Four additional showers, total 2,400 gpd. Two additional toilets and sinks, total 720 gpd. Four washing machines, standard top loaders 40 gallons per load, 12 loads per machine/day, total 1,920 gpd.
- Total additional water demand approximately 10,000 gpd.
- Additional potable water storage required between 5,000 and 10,000 gallons.
- Additional water pipe required: 3" mains = 3,700 LF, 1" laterals = 3,600 LF.
- Additional booster pump in treatment building and possible additional treatment system added to treatment building.

Wastewater System Considerations and Assumptions

The following subsections present the design considerations and assumptions for the wastewater system components included in the low level of development as well as the high level of development in this feasibility design. For purposes of design, it was assumed that all underground sewer lines would be abandoned in place. It was also assumed that all existing septic tanks would either be removed or broken down, backfilled, and abandoned in place.

Low Level Development

The following components were included in the low level development feasibility design:

- Septic leach fields should be sized below 5,000 gpd to avoid excessive state permitting and monitoring.
- Percolation rate initially assumed at 0.5 gal/day/sf (amesha/loam soil). No site testing has been completed as of May 2013.
- Per advice from Montana DEQ, since the discharge from RV sites is estimated at 100 gal/day per site, no additional treatment will be required beyond a septic tank and leach field system.
- Montana DEQ regulations require pressure distribution for leach fields larger than 1,000 sf or 500 lf of trench.
- Winterization of lines (below frost level) is only needed at the host and store. The leachfields will be protected from freezing due to depth, as will the lift station due to the required size. The only modification for winter service will be to have the pressure line drain back into the lift station after each cycle.
- Due to site limitations and to avoid excessive excavation for large leach fields, the collection system for the RV loop was split into two parallel systems with a septic tank, lift station and leach field for approximately half of the RV pads.
- Leach fields for the RV loop are estimated to require approximately 3,800 sf of absorbtion area each. Using infiltration chambers and pressurized distribution lines, estimated leach field size is 50' x 100'. Septic tank sizes are estimated at 5,500 gallons.

- Leach field for the central hub is estimated to require approximately 8,000 sf of absorbtion area. Using infiltration chambers and pressurized distribution lines, estimated leach field size is 75' x 120'. Septic tank size is estimated at 10,000 gallons.
- RV dump station will be equipped with one 10,000 gallon holding tank. The holding will be fitted with floats and alarms. State regulation require a preliminary agreement with a septic tank pumping company as a condition of project approval.
- Approximate sewer pipe required:
    - 6" main = 2,500 LF
    - 4" lateral = 2,100 LF
    - 2" HDPE effluent pipe = 1,500 LF

High Level Development

The following components were included in the high level development feasibility design:

- Leach fields for the additional RV loop are estimated to require approximately 3,800 sf of absorbtion area each. Using infiltration chambers and pressurized distribution lines, estimated leach field size is 50' x 100'. Septic tank sizes are estimated at 5,500 gallons.
- Leach field for the additional showers and laundry is estimated to require approximately 8,000 sf of absorbtion area. Using infiltration chambers and pressurized distribution lines, estimated leach field size is 75' x 120'. Septic tank size is estimated at 10,000 gallons.
- Approximate sewer pipe required:
    - 6" main = 2,000 LF
    - 4" lateral = 3,100 LF
    - 2" HDPE effluent pipe = 2,200 LF.
- Onsite treatment of the dump station waste water will require a recirculating aerobic treatment unit or similar advanced treatment before disposal in a pressurized leach field.

Architectural Considerations and Assumptions

The following subsections present the architectural design considerations at the site. Based on scope and budgetary limitations, architectural drawings are not included in the feasibility design. Cut sheets and sample floor plans are provided in Attachment 3. Please note: these are sample floor plans only and do not represent the final design. The sections below detail the programing and technical approach to the pre-manufactured buildings proposed for the project.

Low Level Development Architectural Building Program & Narrative

It is anticipated that the buildings will be pre-manufactured, concrete buildings. The Toilet & Shower building design is based upon CXT Concrete Building's model *Cheyenne*. The Store building will be a pre-manufactured building also, but will be a custom design, coordinated between the design team and the manufacturer. The building manufacturer will ship the buildings in sections that fit onto a tractor trailer truck to be delivered to the site, picked and set by a crane. The buildings will be set on a gravel pad. The utilities will need to be stubbed up and the pre-fabricated building manufacturer will make the final utility connections and grout around the penetrations/block outs. Interior electrical and data outlets and conduit can be designed to be recessed/concealed in the walls, or can be surface mounted (less expensive). The building will have a 5" concrete slab as part of the prefabricated modules.

The building exterior materials are painted, textured concrete. The buildings will be two-tone color scheme meaning the roof and the walls will be different colors.

- Walls: Concrete with standard Barnwood texture.
- Roofing: Concrete with standard Cedar Shake texture.

Store (Low Level Development)

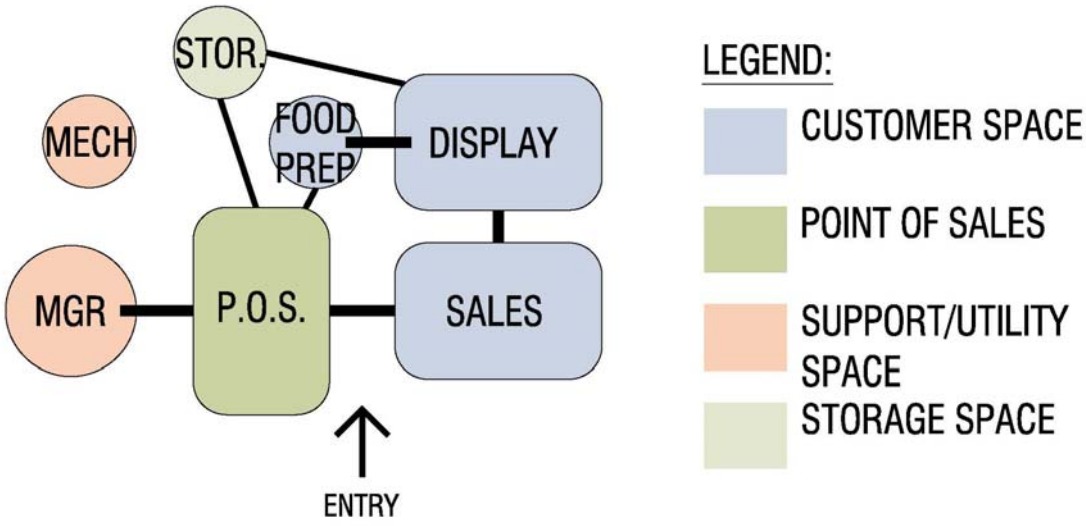
The Goose Bay Marina Store is to provide refreshments, drinks, ice, limited sundries, and fishing bait and tackle for sale to people recreating at Goose Bay Marina. It is anticipated that there will

be glass, reach-in display coolers/freezers for cold drinks as well as frozen food and dessert items. A microwave will be provided for heating up food, as well as a coffee maker for fresh brewed coffee. The store may possibly sell some Goose Bay merchandise, such as tee shirts and hats. Merchandise will be limited in the Low Level Development, as space for display or storage will be limited.

The base footprint of the building is estimated to be 16.5' x 26' without any covered porches. There will be a 1'-6" overhang at each end of the building. The final dimensions and configurations would be developed with the design team and the building manufacturer.

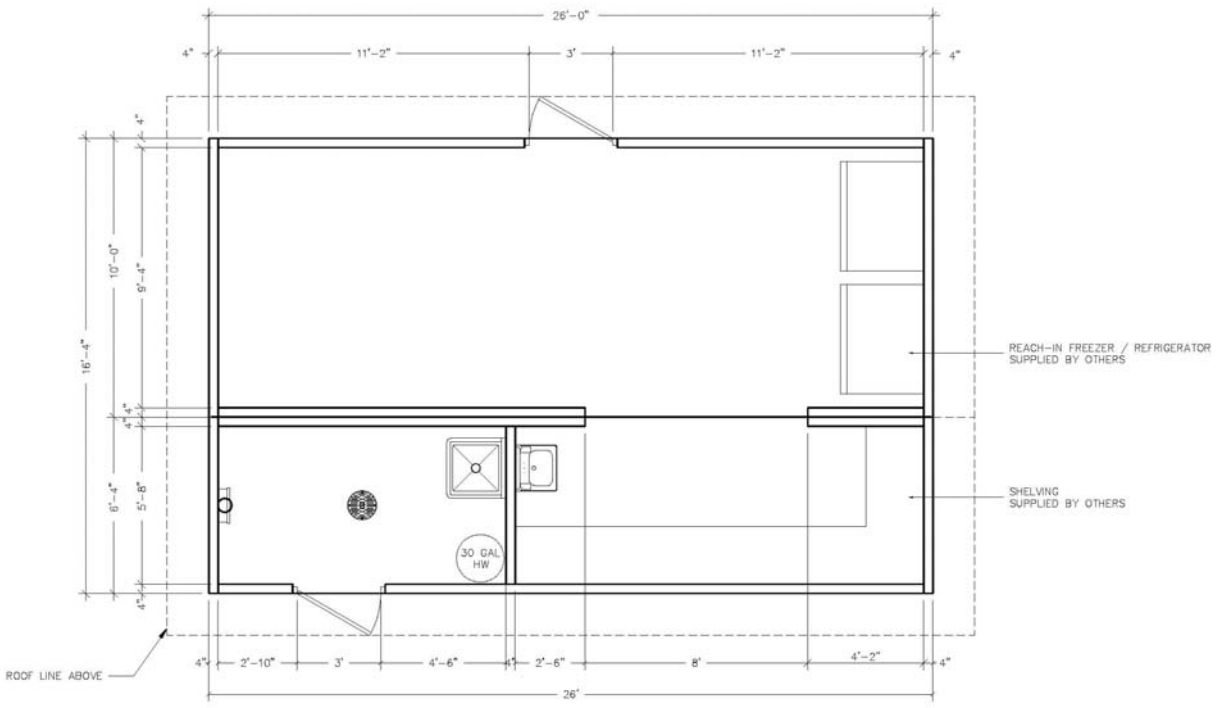
Store Area Requirements (Low Level Development):

	Quantity	Area (sf)	Total Area
Point of Sales (POS)	1	100 sf	100 sf
Manager	1	50 sf	50 sf
Sales area	1	100 sf	100 sf
Display	1	100 sf	100 sf
Food Prep	1	25 sf	25 sf
Storage	1	25 sf	25 sf
Mechanical	1	25 sf	25 sf
TOTAL			**425 sf**



STORE: LOW LEVEL DEVELOPMENT

SPACE BUBBLE DIAGRAM - SPATIAL RELATIONSHIPS



STORE: LOW LEVEL DEVELOPMENT

BUILDING BLOCK DIAGRAM

NOTE: DIMENSIONS ARE APPROXIMATE FOR CONCEPTUAL DESIGN.

Store Finishes (Low Level Development):

1. Floors:
   a. Concrete – epoxy flooring with integral cove base.
2. Walls:
   a. Material: Concrete: stained & sealed.
3. Ceiling Finish:
   a. Material: Concrete: stained & sealed.
   b. Ceiling Height Requirements: 8'-0" minimum
4. Doors:
   a. Type
      1) Single Leaf Width: 34" clear minimum.
         - Swinging - Metal - painted.
   b. Vision Panels: Yes
   c. Weather strips / Seals: Yes
   d. Security Requirements:
      1) Card Key
      2) Key Pad
      3) Other:
   e. Protection - kick plates: Yes
5. Borrowed Lite / Windows:
   a. Transoms
      1) Glazing Type: Translucent, Low-E, Insulated.
   b. Exterior Windows:
      1) Glazing Type: Transparent, Low-E, Insulated.
6. Interior Window Coverings: Yes
7. Exterior Window Coverings: No

Store Equipment Requirements (Low Level Development) (equipment provided by concessionaire):

Equipment	Quantity	Size/Dimensions	Utility Reqs.	Notes
Cash Register	1	~13”w X 17”d X 13”h	Power & data connections	
Cash Drawer	1	~16.5”w X 17”d X 5”h	N/A	Lockable.
Safe	1	~16.5”w X 17”d X 18”h	N/A	Under counter
File Cabinet	1	~19.5”w X 17”d X 28”h	N/A	Under counter 2-drawer lockable
2-Door Reach-in Display Cooler	1	~48w X 32”d X 80”h	Power connection	27 cu. ft.
2-Door Reach-in Display Freezer	1	~48w X 32”d X 80”h	Power connection	25 cu. ft.
Microwave	1	~21.75w X 17.25”d X 13”h	Power connection	1.6 cu. ft. 1200 watts
Coffee Maker	1	~16” X 17.7”d X 23.5”h	• Power connection • Water line	Twin brew, air pot
Bulletin/Information Area	1	4’ X 4’	N/A	Cork tack board with aluminum frame.

Store Plumbing Requirements (Low Level Development):

Plumbing Requirements	Quantity	Type	Size	Accessories/Notes
Hand Sink	1	Wall mounted (vitreous china)	18”w X 14”d min.	• 1 – Gooseneck Faucet • 1 – Basket Strainer • 1 ea. – hot & cold accessible control levers. • 1 - Soap dispenser • 1 - Paper Towel Dispenser/Disposal • 1 – Accessible Faucet and Levers • 1 – Under Lavatory Guard • 1 – Instantaneous heater; re: mechanical/plumbing
Floor Drain	1			Refer to plumbing for specifics.

Toilet & Shower Facility (Low Level Development)

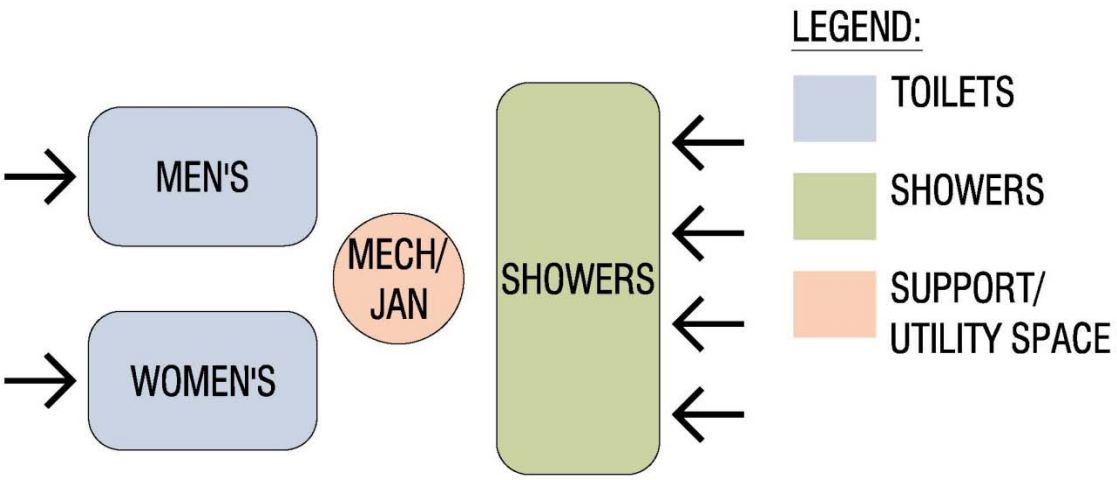
While it is anticipated that a majority of the facility users will have their own toilet and shower facilities within their RV, there is a need to provide these facilities for those that do not as well as day recreators as well and tent campers. The Goose Bay Marina Toilet & Shower Facility is to provide toilets and fee-based showers for the users of the recreation area. The toilet rooms will be gang toilet style rooms, with one for men and one for women with toilet stalls and combined lavatory area. There will be one fully accessible toilet stall, lavatory, and accessories in each toilet room.

The shower stalls are to be individual, unisex stalls that are fee based for usage. The showers will be coin/token operated with an average of 8 – 12 minute shower. This encourages water conservation and will expedite wait times during periods of high usage. A bill changer will be provided. One shower stall will be fully accessible with a roll-in shower and maneuver clearances. All shall have space for changing and drying off. The toilet and shower room accessories are to be durable, tamper-proof and as indestructible as possible for longevity and low maintenance.

The base footprint of the building is estimated to be 26’ x 30’ without any covered porches. There will be a 1’-6” overhang at each end of the building. The final dimensions and configurations would be developed with the design team and the building manufacturer.

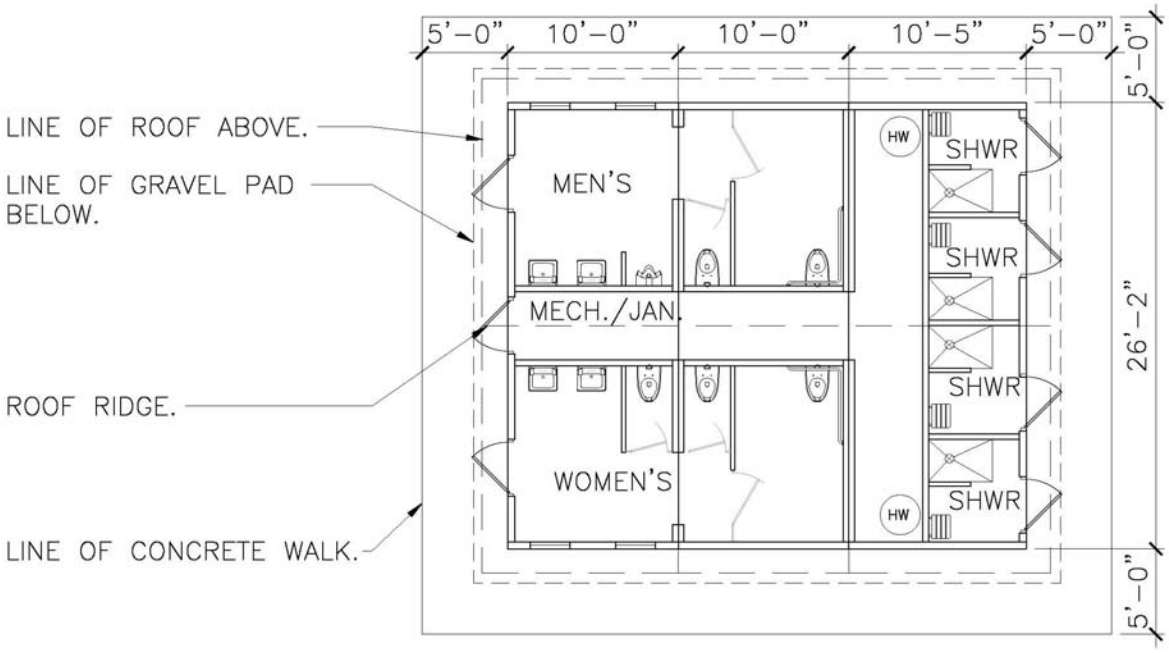
Toilet & Shower Facility Area Requirements (Low Level Development):

	Quantity	Area (sf)	Total Area
Unisex Shower Stall • Fee Based	4	60 sf (max.)	240 sf
Men’s Toilet Room	1	220 sf	220 sf
Women’s Toilet Room	1	220 sf	220 sf
Janitor/Mechanical Room	1	120 sf	120 sf
TOTAL			**800 sf**



TOILET & SHOWER FACILITY: LOW LEVEL DEVELOPMENT

SPACE BUBBLE DIAGRAM - SPATIAL RELATIONSHIPS



TOILET & SHOWER FACILITY: LOW LEVEL DEVELOPMENT

BUILDING SCHEMATIC PLAN

NOTE: DIMENSIONS ARE APPROXIMATE FOR CONCEPTUAL DESIGN.

Toilet Room Finishes (Low Level Development):

1. Floors:
   a. Concrete - sealed
2. Walls:
   a. Material: Concrete – stained & sealed.
3. Ceiling Finish:
   a. Material: Concrete – stained & sealed.
   b. Ceiling Height Requirements: 8'-0" minimum
4. Doors:
   a. Type
      1) Single Leaf Width: 34" clear minimum.
         - Swinging - Metal - painted
   b. Vision Panels: No
   c. Weather strips / Seals: Yes
   d. Security Requirements: None.
   e. Hardware: Classroom Lockset with lever handles.
   f. Protection - kick plates: Yes
5. Borrowed Lite / Windows:
   a. Transoms
      1) Glazing Type: Translucent, Lexan.
   b. Exterior Windows:
      1) None.
6. Interior Window Coverings: No
7. Exterior Window Coverings: No

Toilet Room Plumbing Requirements (Low Level Development):

Plumbing Requirements	Quantity	Type	Size	Accessories/Notes
Drinking Fountain	1	Wall mounted (stainless steel)		• Exterior wall mounted • Accessible. • Cold water connection
Men's Toilet Room	1			• Floor Drain: 1 per room • Paper towel dispenser/disposal: 1 per room • Hand Dryer: 1 per room • Baby Changing Station (folding): 1 per room
-Accessible Toilet Stall	1	Flush Valve Toilet (vitreous china)	5' x 5' min.	• Toilet Partition Compartment with door (floor mounted, overhead braced). • Toilet Tissue Dispenser: 1 per compartment • Coat Hook: 1 per compartment (on back of door) • Grab bars: o Side wall: 1 per compartment o Back wall: 1 per compartment
- Toilet Stall	1	Flush Valve Toilet (vitreous china)	3' x 5' min.	• Toilet Partition Compartment with door (floor mounted, overhead braced). • Toilet Tissue Dispenser: 1 per compartment • Coat Hook: 1 per compartment (on back of door)
-Urinal	1	Flush Valve Urinal (vitreous china)	3' x 5' min.	Toilet partition wing wall (floor mounted).
-Lavatories	2	Wall mounted (vitreous china)	~18.5"w X 17"d X 10.5"h	• Mirror: 1 per sink • Soap dispenser: 1 per sink • 1 – hot & cold accessible control levers. • Hot & cold water connections. • Under Lavatory Guard: 1 per sink
Women's Toilet Room	1			• Floor Drain: 1 per room • Paper towel dispenser/disposal: 1 per room • Hand Dryer: 1 per room • Baby Changing Station

				(folding): 1 per room
-Accessible Toilet Stall	1	Flush Valve Toilet (vitreous china)	5’ x 5’ min.	• Toilet Partition Compartment with door (floor mounted, overhead braced). • Toilet Tissue Dispenser: 1 per compartment • Sanitary Napkin Disposal: 1 per compartment • Coat Hook: 1 per compartment (on back of door) • Grab bars: o Side wall: 1 per compartment o Back wall: 1 per compartment
- Toilet Stall	2	Flush Valve Toilet (vitreous china)	3’ x 5’ min.	• Toilet Partition Compartment with door (floor mounted, overhead braced). • Toilet Tissue Dispenser: 1 per compartment • Sanitary Napkin Disposal: 1 per compartment • Coat Hook: 1 per compartment (on back of door)
-Lavatories	2	Wall mounted (vitreous china)	~18.5”w X 17”d X 10.5”h	• Mirror: 1 per sink • Soap dispenser: 1 per sink • 1 – hot & cold accessible control levers. • Hot & cold water connections. • Under Lavatory Guard: 1 per sink

Shower Room Finishes (Low Level Development):

1. Floors:
   a. Concrete – sealed.
2. Walls:
   a. Material: Concrete – stained & sealed.
3. Ceiling Finish:
   a. Material: Concrete – stained & sealed.
   b. Ceiling Height Requirements: 8'-0" minimum
4. Doors:
   a. Type
      1) Single Leaf Width: 34" clear minimum.
         • Swinging - Metal - painted.
   b. Vision Panels: No
   c. Weather strips / Seals: Yes
   d. Security Requirements: None.
   e. Hardware: Classroom Lockset with lever handles.
   f. Protection - kick plates: Yes
5. Borrowed Lite / Windows:
   a. Transoms
      1) Glazing Type: Translucent, Lexan.
   b. Exterior Windows:
      1) None.
6. Interior Window Coverings: No
7. Exterior Window Coverings: No

Shower Room Plumbing Requirements (Low Level Development):

Plumbing Requirements	Quantity	Type	Size	Accessories/Notes
Accessible Shower Stall	1	Roll-in	Shower: 36" x 60" min.	• Grab bars: o Side wall: 1 per shower o Back wall: 1 per shower • Shower Seat: 1 per shower • Soap dish: 1 per shower • Accessible Controls. • Floor Drain: 1 per shower/ room • Hot & cold water connections.
Shower Stall	3	compartment	Shower: 36" x 36" min.	• Soap dish: 1 per shower • Floor Drain: 1 per shower/ room • Hot & cold water connections.

Janitor Room Finishes (Low Level Development):

1. Floors:
   a. Concrete - sealed.
2. Walls:
   a. Material: Concrete – stained & sealed.
3. Ceiling Finish:
   a. Material: Concrete – stained & sealed.
   b. Ceiling Height Requirements: 8'-0" minimum
4. Doors:
   a. Type
      1) Single Leaf Width: 34" clear minimum.
         • Swinging - Metal - painted.
   b. Vision Panels: No
   c. Weather strips / Seals: No
   d. Security Requirements: None.
   e. Hardware: Storeroom Lockset with lever handles.
   f. Protection - kick plates: Yes
5. Borrowed Lite / Windows: No
6. Interior Window Coverings: No
7. Exterior Window Coverings: No

Janitor Room Plumbing Requirements (Low Level Development):

Plumbing Requirements	Quantity	Type	Size	Accessories/Notes
Mop Service Basin	1	Floor mounted (terrazzo)	36" x 36" min.	• Stainless steel shelf for supplies • Stainless steel rod for hanging supplies/towels • Hot & cold water connections. • Broom/Mop Holders: 3 minimum
Floor Drain	1			Refer to plumbing for specifics.

High Level Development Architectural Building Program & Narrative

It is anticipated that the buildings will be pre-manufactured, concrete buildings. The building manufacturer will ship the buildings in sections that fit onto a tractor trailer truck to be delivered to the site, picked and set by a crane. The buildings will be set on a gravel pad. The utilities will need to be stubbed up and the pre-fabricated building manufacturer will make the final utility connections and grout around the penetrations/block outs. Interior electrical and data outlets and conduit can be designed to be recessed/concealed in the walls, or can be surface mounted (less expensive). The building will have a 5" concrete slab as part of the prefabricated modules.

To achieve the full build-out, it is anticipated that the Low Level Development happens first and the High Level Development augments it. There will be two buildings to house toilet, shower and laundry facilities. One building will be built with the low level development and be a Toilet & Shower building design is based upon CXT Concrete Building's model Cheyenne, as described in the Low Level Development above. A second building, built with the High Level Development will house additional toilet and showers facilities as well as laundry facilities. The floor plan will be similar to the Cheyenne, but will be a custom design, coordinated to the project specifics between the design team and the manufacturer.

The Contact Center will also be designed to be constructed in two phases, the base Store being built as part of the Low Level Development with an addition built with the High Level Development. Both buildings will be a custom design, coordinated to the project specifics between the design team and the manufacturer.

The building exterior materials are painted, textured concrete. The buildings will be two-tone color scheme meaning the roof and the walls will be different colors.

- Walls: Concrete with standard Barnwood texture.
- Roofing: Concrete with standard Cedar Shake texture.

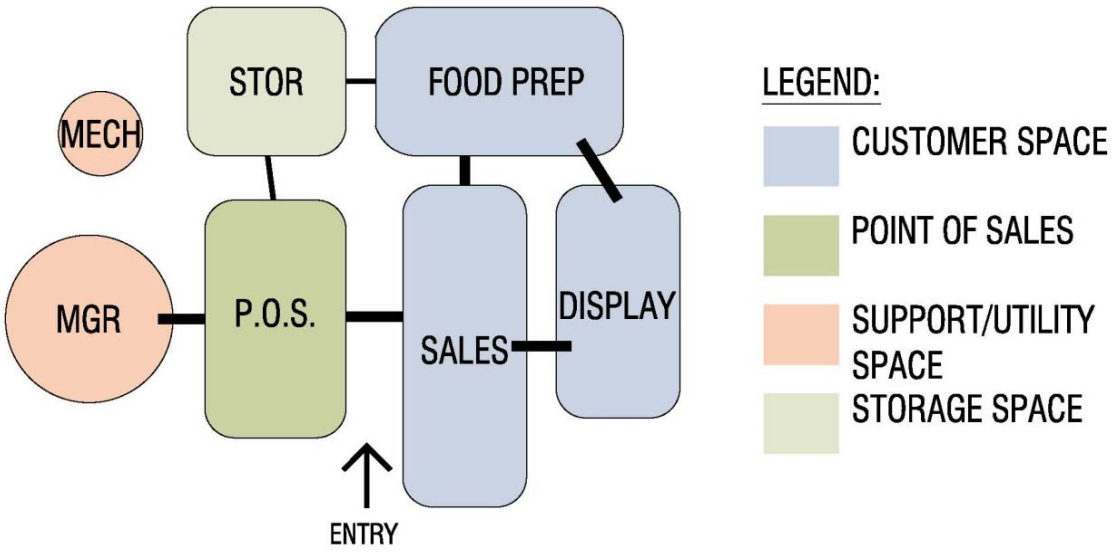
Contact Center (High Level Development)

The Goose Bay Marina Contact Center is to provide refreshments, drinks, ice, limited sundries and fishing bait and tackle for sale to people recreating at Goose Bay Marina. It is anticipated that there will be glass, reach-in display coolers/freezers for cold drinks as well as frozen food and dessert items. Microwaves will be provided for heating up food, as well as coffee makers for fresh brewed coffee. Since the Contact Center will double the area of the low level development Store, there will be more room for merchandise, such as fishing rods, fishing equipment, tee shirts, hats, postcards, etc. to be for sale as well as expanded area for food, beverages and fishing supplies.

It is presumed that the low level development Store building will be in place, and to achieve the high level development, an addition will be set next to the existing building. The design will incorporate connecting the two buildings into one contiguous building. The base footprint of the building is estimated to be, 2 – 16.5’ x 26’ buildings, for a footprint of 33’ x 26’. There will be a 1’-6” overhang at each end of the building. The final dimensions and configurations would be developed with the design team and the building manufacturer.

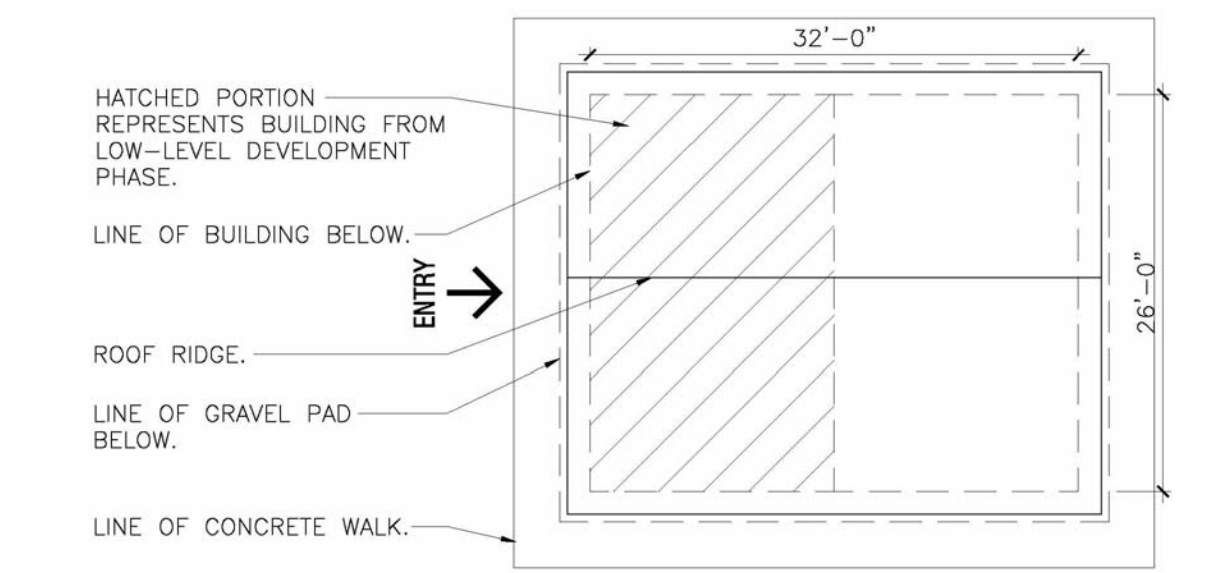
Contact Center Area Requirements (High Level Development):

	Quantity	Area (sf)	Total Area
Point of Sales (POS)	1	150 sf	150 sf
Manager	1	100 sf	100 sf
Sales area	1	175 sf	175 sf
Display	1	125 sf	125 sf
Food Prep	1	150 sf	150 sf
Storage	1	100 sf	100 sf
Mechanical	1	25 sf	25 sf
TOTAL			**825 sf**



STORE: HIGH LEVEL DEVELOPMENT

SPACE BUBBLE DIAGRAM - SPATIAL RELATIONSHIPS



STORE: HIGH LEVEL DEVELOPMENT

BUILDING BLOCK DIAGRAM

NOTE: DIMENSIONS ARE APPROXIMATE FOR CONCEPTUAL DESIGN.

Contact Center Finishes (High Level Development):

1. Floors:
   a. Concrete – epoxy flooring with integral cove base.
2. Walls:
   a. Material: Concrete – stained & sealed.
3. Ceiling Finish:
   a. Material: Concrete – stained & sealed.
   b. Ceiling Height Requirements: 8'-0" minimum
4. Doors:
   a. Type
      1) Single Leaf Width: 34" clear minimum.
         • Swinging - Metal - painted.
   b. Vision Panels: Yes
   c. Weather strips / Seals: Yes
   d. Security Requirements:
      1) Card Key
      2) Key Pad
      3) Other:
   e. Protection - kick plates: Yes
5. Borrowed Lite / Windows:
   a. Transoms
      1) Glazing Type: Translucent, Low-E, Insulated.
   b. Exterior Windows:
      1) Glazing Type: Transparent, Low-E, Insulated.
6. Interior Window Coverings: Yes
7. Exterior Window Coverings: No

Contact Center Equipment Requirements (High Level Development):

Equipment	Quantity	Size/Dimensions	Utility Reqs.	Notes
Cash Register	1	~13"w X 17"d X 13"h	Power & data connections	
Cash Drawer	1	~16.5"w X 17"d X 5"h	N/A	Lockable.
Safe	1	~16.5"w X 17"d X 18"h	N/A	Under counter
File Cabinet	1	~19.5"w X 17"d X 28"h	N/A	Under counter 2-drawer lockable
2-Door Reach-in Display Cooler	2	~48w X 32"d X 80"h	Power connection	27 cu. ft.
2-Door Reach-in Display Freezer	1	~48w X 32"d X 80"h	Power connection	25 cu. ft.
Microwave	2	~21.75w X 17.25"d X 13"h	Power connection	1.6 cu. ft. 1200 watts
Coffee Maker	2	~16" X 17.7"d X 23.5"h	• Power connection	Twin brew, air pot

			• Water line	
Beverage Dispenser	1		• Power connection • Floor drain	
Bulletin/Information Area	2	4’ X 4’	N/A	Cork tack board with aluminum frame.

Contact Center Plumbing Requirements (High Level Development):

Plumbing Requirements	Quantity	Type	Size	Accessories/Notes
Hand Sink	1	Wall mounted (vitreous china)	18”w X 14”d min.	• 1 – Gooseneck Faucet • 1 – Basket Strainer • 1 ea. – hot & cold accessible control levers. • 1 - Soap dispenser • 1 - Paper Towel Dispenser/Disposal • 1 – Accessible Faucet and Levers • 1 – Under Lavatory Guard • 1 – Instantaneous heater; re: mechanical/plumbing
Floor Drain	1			Refer to plumbing for specifics.

Toilet, Shower & Laundry Facility (High Level Development)

While it is anticipated that a majority of the facility users will have their own toilet and shower facilities within their RV, there is a need to provide these facilities for those that do not as well as day recreators as well and tent campers. The Goose Bay Marina Toilet & Shower Facility is to provide toilets and fee-based showers for the users of the recreation area. The toilet rooms will gang toilet style rooms, with one for men and one for women with toilet stalls and combined lavatory area. There will be one fully accessible toilet stall, lavatory, and accessories in each toilet room.

The shower stalls are to be individual, unisex stalls that are fee based for usage. The showers will be coin/token operated with an average of 8 – 12 minute shower. This encourages water conservation and will expedite wait times during periods of high usage. A bill changer will be provided. One shower stall will be fully accessible with a roll-in shower and maneuver clearances. All shall have space for changing and drying off. The toilet and shower room accessories are to be durable, tamper-proof and as indestructible as possible for longevity and low maintenance.

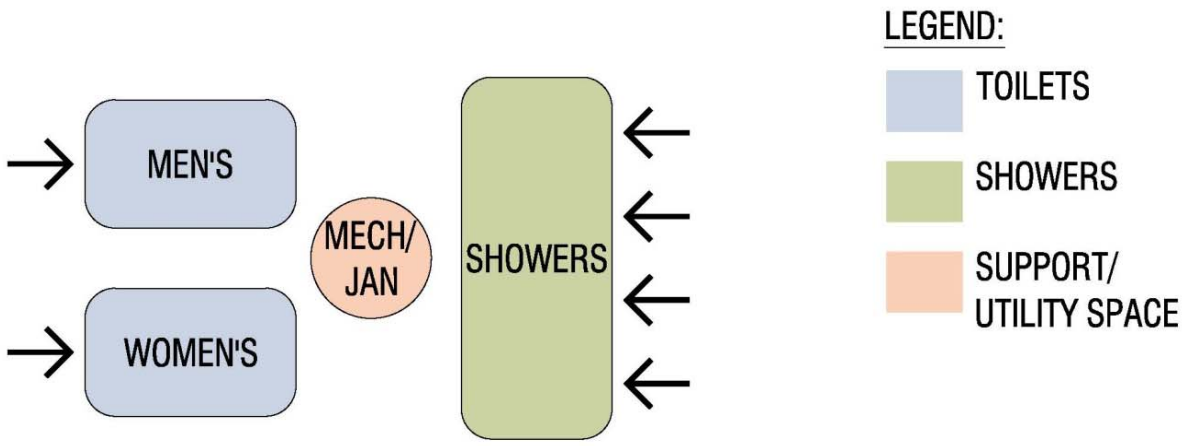
It is presumed that the low level development Toilet & Shower building will be in place, and to achieve the high level development, an additional building will be set on the site, near the existing building. The base footprint of the building is estimated to be 26’ x 30’ without any covered porches. There will be a 1’-6” overhang at each end of the building. The final dimensions and configurations would be developed with the design team and the building manufacturer.

The base footprint of toilet/shower/laundry building is estimated to be 26’ x 40’ without any covered porches. There will be a 1’-6” overhang at each end of the building. The entrance to the toilet rooms would be on the side of the building. The final dimensions and configurations would be developed with the design team and the building manufacturer.

Toilet, Shower & Laundry Facility Area Requirements (High Level Development):

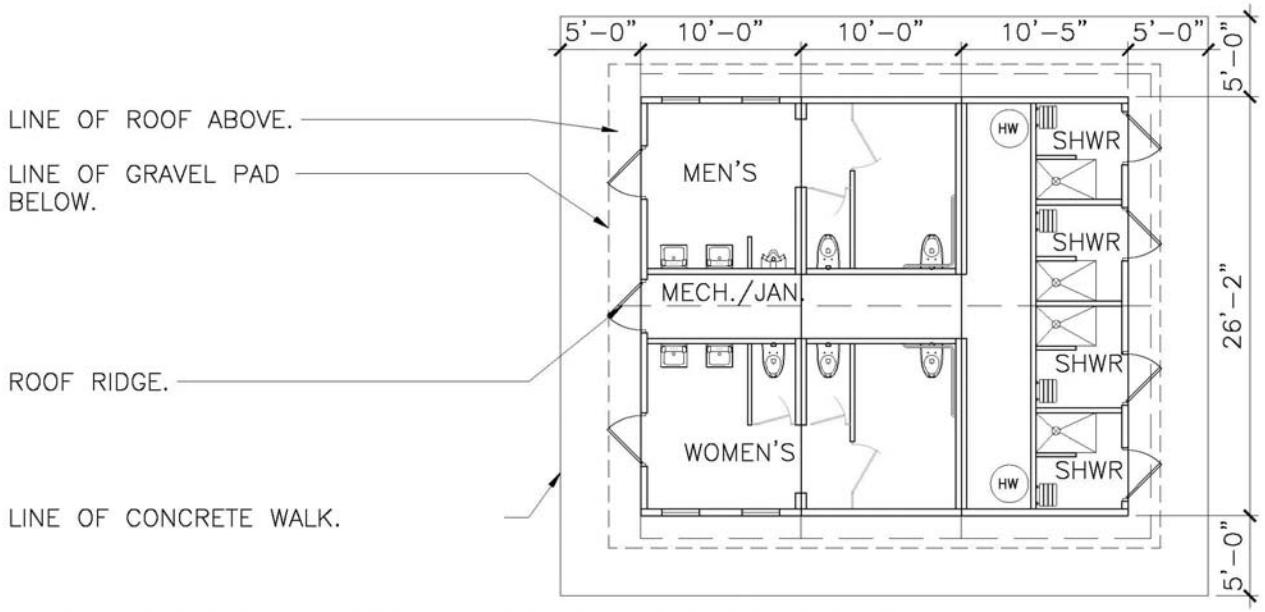
	Quantity	**Area (sf)**	**Total Area**
Unisex Shower Stall • Fee Based	8*	60 sf (max.)	480 sf
Men’s Toilet Room	2*	140 sf	280 sf
Women’s Toilet Room	2*	140 sf	280 sf
Laundry Room	1**	100 sf	100 sf
Laundry Supply Room	1**	50 sf	50 sf
Janitor/Mechanical Room	2*	50 sf	100 sf
TOTAL			**1,290 sf**

*Note: Shower rooms, toilet rooms and janitor rooms are split evenly between two separate buildings. Initial building installed with low level development.
**Note: Laundry room and laundry supply room to be with the additional building in the high-level build-out.



TOILET & SHOWER FACILITY: HIGH LEVEL DEVELOPMENT

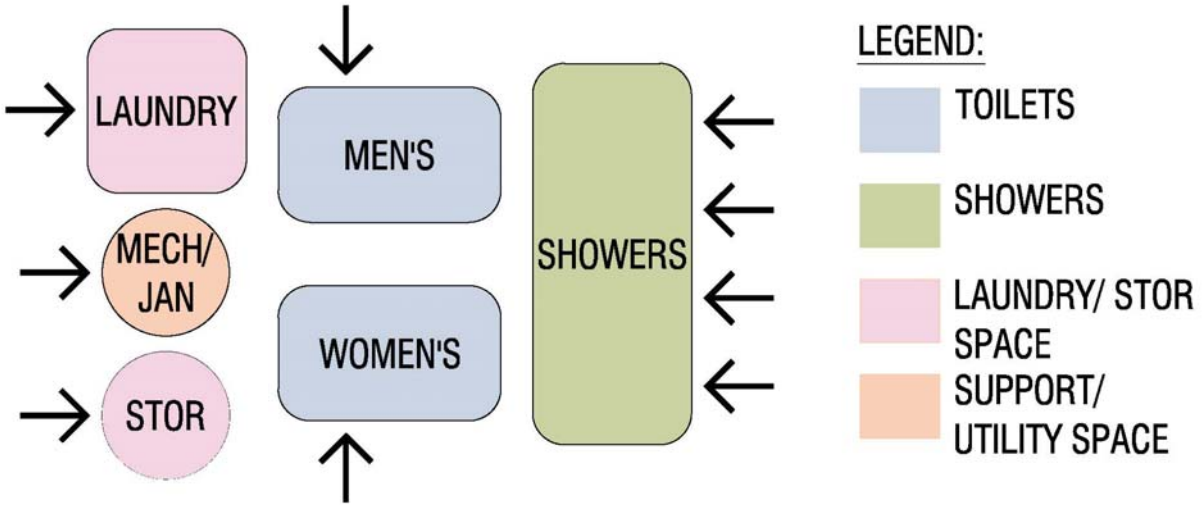
SPACE BUBBLE DIAGRAM - SPATIAL RELATIONSHIPS



TOILET & SHOWER FACILITY: HIGH LEVEL DEVELOPMENT

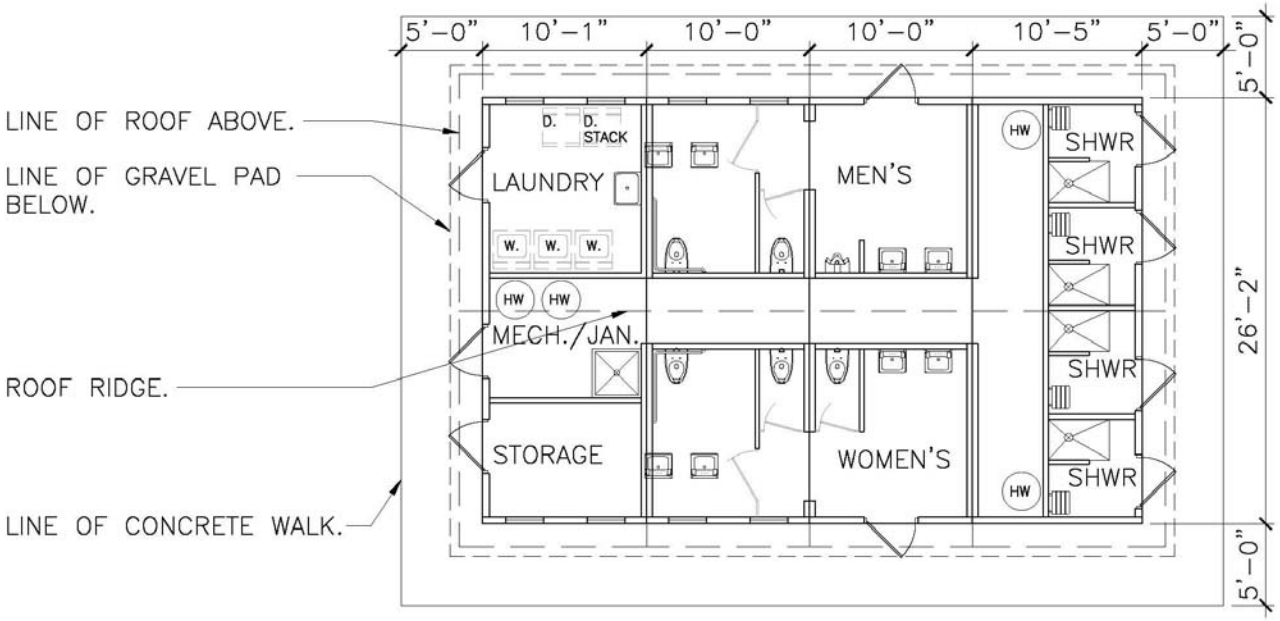
BUILDING SCHEMATIC PLAN

NOTE: DIMENSIONS ARE APPROXIMATE FOR CONCEPTUAL DESIGN.



TOILET , SHOWER & LAUNDRY FACILITY: HIGH LEVEL DEVELOPMENT

SPACE BUBBLE DIAGRAM - SPATIAL RELATIONSHIPS



TOILET , SHOWER & LAUNDRY FACILITY: HIGH LEVEL DEVELOPMENT

BUILDING SCHEMATIC PLAN

NOTE: DIMENSIONS ARE APPROXIMATE FOR CONCEPTUAL DESIGN.

Toilet Room Finishes (High Level Development):

1. Floors:
   a. Concrete - sealed
2. Walls:
   a. Material: Concrete – stained & sealed.
3. Ceiling Finish:
   c. Material: Concrete – stained & sealed.
   d. Ceiling Height Requirements: 8'-0" minimum
4. Doors:
   a. Type
      1) Single Leaf Width: 34" clear minimum.
         - Swinging - Metal - painted
   b. Vision Panels: No
   c. Weather strips / Seals: Yes
   d. Security Requirements: None.
   e. Hardware: Classroom Lockset with lever handles.
   f. Protection - kick plates: Yes
5. Borrowed Lite / Windows:
   a. Transoms
      1) Glazing Type: Translucent, Lexan.
   b. Exterior Windows:
      1) None.
6. Interior Window Coverings: No
7. Exterior Window Coverings: No

Toilet Room Plumbing Requirements (High Level Development):

Plumbing Requirements	Quantity	Type	Size	Accessories/Notes
Men's Toilet Room	2 (1 per building)			• Floor Drain: 1 per room • Paper towel dispenser/disposal: 1 per room • Hand Dryer: 1 per room • Baby Changing Station (folding): 1 per room
-Accessible Toilet Stall	2 (1 per building)	Flush Valve Toilet (vitreous china)	5' x 5' min.	• Toilet Partition Compartment with door (floor mounted, overhead braced). • Toilet Tissue Dispenser: 1 per compartment • Coat Hook: 1 per compartment (on back of door) • Grab bars: o Side wall: 1 per compartment o Back wall: 1 per compartment
- Toilet Stall	2 (1 per building)	Flush Valve Toilet (vitreous china)	3' x 5' min.	• Toilet Partition Compartment with door (floor mounted, overhead braced). • Toilet Tissue Dispenser: 1 per compartment • Coat Hook: 1 per compartment (on back of door)
-Urinal	2 (1 per building)	Flush Valve Urinal (vitreous china)		Toilet partition wing wall (floor mounted).
-Lavatories	4 (2 per building)	Wall mounted (vitreous china)	~18.5"w X 17"d X 10.5"h	• Mirror: 1 per sink • Soap dispenser: 1 per sink • 1 – hot & cold accessible control levers. • Hot & cold water connections. • Under Lavatory Guard: 1 per sink
Women's Toilet Room	2 (1 per building)			• Floor Drain: 1 per room • Paper towel dispenser/disposal: 1 per room • Hand Dryer: 1 per room • Baby Changing Station (folding): 1 per room
-Accessible Toilet Stall	2 (1 per building)	Flush Valve Toilet	5' x 5' min.	• Toilet Partition Compartment with door (floor mounted, overhead braced).

		(vitreous china)		• Toilet Tissue Dispenser: 1 per compartment • Sanitary Napkin Disposal: 1 per compartment • Coat Hook: 1 per compartment (on back of door) • Grab bars: o Side wall: 1 per compartment o Back wall: 1 per compartment
- Toilet Stall	4 (2 per building)	Flush Valve Toilet (vitreous china)	3’ x 5’ min.	• Toilet Partition Compartment with door (floor mounted, overhead braced). • Toilet Tissue Dispenser: 1 per compartment • Sanitary Napkin Disposal: 1 per compartment • Coat Hook: 1 per compartment (on back of door)
-Lavatories	4 (2 per building)	Wall mounted (vitreous china)	~18.5”w X 17”d X 10.5”h	• Mirror: 1 per sink • Soap dispenser: 1 per sink • 1 – hot & cold accessible control levers. • Hot & cold water connections. • Under Lavatory Guard: 1 per sink

Shower Room Finishes (High Level Development):

1. Floors:
   a. Concrete – sealed.
2. Walls:
   a. Material: Concrete – stained & sealed.
3. Ceiling Finish:
   a. Material: Concrete – stained & sealed.
   b. Ceiling Height Requirements: 8’-0” minimum
4. Doors:
   a. Type
      1) Single Leaf Width: 34” clear minimum.
         • Swinging - Metal - painted.
   b. Vision Panels: No
   c. Weather strips / Seals: Yes
   d. Security Requirements: None.
   e. Hardware: Classroom Lockset with lever handles.
   f. Protection - kick plates: Yes
5. Borrowed Lite / Windows:
   a. Transoms

1) Glazing Type: Translucent, Lexan.

b. Exterior Windows:

1) None.

6. Interior Window Coverings: No
7. Exterior Window Coverings: No

Shower Room Plumbing Requirements (High Level Development):

Plumbing Requirements	Quantity	Type	Size	Accessories/Notes
Accessible Shower Stall	2 (1 per building)	Roll-in	Shower: 36" x 60" min.	• Grab bars: o Side wall: 1 per shower o Back wall: 1 per shower • Hot & cold water connections. • Accessible Controls. • Shower Seat: 1 per shower • Soap dish: 1 per shower • Floor Drain: 1 per shower + 1 per room
Shower Stall	6 (3 per building)	compartment	Shower: 36" x 36" min.	• Hot & cold water connections. • Soap dish: 1 per shower • Floor Drain: 1 per shower + 1 per room

Laundry Room Finishes (High Level Development):

1. Floors:
   a. Concrete - sealed.
2. Walls:
   a. Material: Concrete – stained & sealed.
3. Ceiling Finish:
   a. Material: Concrete – stained & sealed.
   b. Ceiling Height Requirements: 8'-0" minimum
4. Doors:
   a. Type
      1) Single Leaf Width: 34" clear minimum.
         • Swinging - Metal - painted.
   b. Vision Panels: No
   c. Weather strips / Seals: No
   d. Security Requirements: None.
   e. Hardware: Storeroom Lockset with lever handles.
   f. Protection - kick plates: Yes
5. Borrowed Lite / Windows: No
6. Interior Window Coverings: No
7. Exterior Window Coverings: No

Laundry Room Equipment Requirements (High Level Development):

Equipment	Quantity	Size/Dimensions	Utility Reqs.	Notes
Clothes Washer	3	~30”w X 31”d X 43.5”h	-Hot & cold water hook ups -Power connections	• Front loading • 1 to be accessible.
Clothes Dryers	3	~30”w X 31”d X 43.5”h	-Dryer vent -Power connections	• Front loading • 1 to be accessible.

Laundry Room Plumbing Requirements (High Level Development):

Plumbing Requirements	Quantity	Type	Size	Accessories/Notes
Hand Sink	1	Wall mounted (vitreous china)	22”w X 20”d min.	• 1 – Gooseneck Faucet • 1 – Basket Strainer • 1 ea. – hot & cold accessible control levers. • 1 - Soap dispenser • 1 - Paper Towel Dispenser/Disposal • 1 – Accessible Faucet and Levers • 1 – Under Lavatory Guard • 1 – Instantaneous heater; re: mechanical/plumbing
Floor Drain	1			Refer to plumbing for specifics.

Janitor Room Finishes (High Level Development):

1. Floors:
   a. Concrete - sealed.
2. Walls:
   a. Material: Concrete – stained & sealed.
3. Ceiling Finish:
   a. Material: Concrete – stained & sealed.
   b. Ceiling Height Requirements: 8’-0” minimum
4. Doors:
   a. Type
      1) Single Leaf Width: 34” clear minimum.
         • Swinging - Metal - painted.
   b. Vision Panels: No
   c. Weather strips / Seals: No
   d. Security Requirements: None.
   e. Hardware: Storeroom Lockset with lever handles.
   f. Protection - kick plates: Yes
5. Borrowed Lite / Windows: No

6. Interior Window Coverings: No
7. Exterior Window Coverings: No

Janitor Room Plumbing Requirements (High Level Development):

Plumbing Requirements	Quantity	Type	Size	Accessories/Notes
Mop Service Basin	1	Floor mounted (terrazzo)	36" x 36" min.	• Stainless steel shelf for supplies • Stainless steel rod for hanging supplies/towels • Broom/Mop Holders: 3 minimum
Floor Drain	1			Refer to plumbing for specifics.

Electrical Considerations and Assumptions

Overhead, 14,400 volt, single phase, primary power is provided to the site by Vigilante Electrical Cooperative P.O. Box 1049 225 East Bannock Street, Dillon, Montana, 59725, (406) 683-2327. Primary power is currently routed to approximately seven transformers with 33 metered locations. These transformers reduce primary power to 120/240 volt secondary power for utilization at the campground/RV area mobile homes, the store, and other equipment. Underground power is provided to RV pedestals and other equipment throughout the site.

Vigilante Electric Cooperative will remove the overhead power, poles, and transformers at no cost. The remaining power equipment including panels, RV pedestals, underground power, and miscellaneous electrical devices will need to be removed.

A portion of the primary overhead power serving the project site will remain near the fence line. From this location, primary power is routed underground to pad mounted transformers. This allows removal of most of the overhead primary power and power poles. The utility company will own and maintain the transformers and primary conductors. Reclamation will need to provide easements through the site to allow the utility company to maintain and service this equipment.

Electrical service wire from the transformer to the panel is copper routed in PVC conduit. Using copper wire helps reduce voltage drop from the transformer to the panel and enables smaller wire sizes than using aluminum wire.

Direct buried aluminum wire provides power from panels to RV pedestals. Aluminum wire is substantially cheaper than copper wire even when the wire size is increased due to voltage drop. Each RV pedestal is 50/30/20 amp, 240 volt with two hot wires, a neutral wire and ground wire. Typically, two pedestals are on a circuit. Wiring is routed in common trenches as much as possible. The wire is sized so the voltage drop is less than 3.5% from the panel to the pedestal.

In most cases, copper wiring in conduit is provided to other site related electrical equipment. Using copper wire helps reduce voltage drop while keeping the wire size small. Conduit provides protection and enables the wire to be replaced if needed.

Low Level Development

The low end buildout includes eight transformers and meters. One transformer serves the hub area while the remaining seven transformers serve the campgrounds. Under the low end buildout, the site electrical connected load is 785,579 VA and 3,274 amps. The 2011 National Electric Code allows site feeders and service entrance conductors to be reduced based upon the number of recreational vehicle sites. The demand factor for campgrounds with over 35 sites is 41 percent. Applying this factor to the RV load changes the low end buildout to a demand load of 368,500 VA and 1,535 amps. Following is a list of the transformers, panels, and equipment included in the low end buildout:

Transformer 1: 75 KVA transformer feeding 600 amp panel P1. Panel P1 provides power to the following equipment:

- Panel P1A, Store Subpanel: 200 Amp
    - Store includes freezers, refrigerators, microwaves, coffee maker, receptacles, lights, furnace, air conditioning condensing unit, and instantaneous electric water heater.
- Panel P1B, Toilet Building Subpanel: 125 Amp
    - Toilet building includes receptacles, lights, exhaust fans, electric hand dryers, electric heaters in showers, women's and men's room.
- Fuel pump: Assumed 6.25 amps.
- Lift station: Two 1/3 hp pumps.

Transformer 2: 75 KVA transformer feeding 400 amp panel P2. Panel P2 provides power to the following equipment:

- 12 RV power pedestals: 50/30/20 Amp
- Pavilion: Lights and receptacle controlled by timer.

Transformer 3: 75 KVA transformer feeding 400 amp panel P3. Panel P3 provides power to the following equipment:

- 12 RV power pedestals: 50/30/20 Amp
- Submersible well pump: 1/2 hp pump.

Transformer 4: 75 KVA transformer feeding 400 amp panel P4. Panel P4 provides power to the following equipment:

- 10 RV power pedestals: 50/30/20 Amp
- Lift station: Four 1/3 hp pumps.
- Dock receptacle: GFI with weather proof cover

Transformer 5: 75 KVA transformer feeding 400 amp panel P5. Panel P5 provides power to the following equipment:

- 10 RV power pedestals: 50/30/20 Amp
- Panel P5A, Well Building Subpanel: 60 Amp
    - Provides power to lights, receptacles, electric heater and water control panel. Control wiring in conduit to submersible well pump and water storage tank floats.

Transformer 6: 75 KVA transformer feeding 400 amp panel P6. Panel P6 provides power to the following equipment:

- 12 RV power pedestals: 50/30/20 Amp

Transformer 7: 75 KVA transformer feeding 400 amp panel P2. Panel P7 provides power to the following equipment:

- 10 RV power pedestals: 50/30/20 Amp

Transformer 8: 75 KVA transformer feeding 400 amp panel P2. Panel P8 provides power to the following equipment:

- 10 RV power pedestals: 50/30/20 Amp
- Pavilion: Lights and receptacle controlled by timer.
- Panel P8A: 60 Amp
    - Provides power to weather proof receptacle at maintenance storage.

High Level Development

The high end buildout includes five additional transformers and meters plus changing one transformer in the low end buildout to a larger transformer. Under the high end buildout the site electrical connected load increases to 1,292,231 VA and 5,384 amps. Applying the campground demand factor adjustment provides a demand load of 620,737 VA and 2,586 amps. Following is a list of the transformers, panels, and equipment included in the high end buildout:

Transformer 1: Change the low end buildout 75 KVA transformer to a 100 KVA transformer. The following additional load is added to Panel P1:

- Relocate Panel P1A to new store location.
- Panel P1C, Laundry/Toilet Building Subpanel: 200 Amp
    - Includes receptacles, lights, exhaust fans, electric hand dryers, electric heaters in showers, women's and men's room.
- Dock receptacle and Fuel pump: One receptacle and one fuel pump.
- Laundry/Toilet Building Lift station: Two 1/3 hp pumps.
- Flag Pole Lighting: 100 Watts.
- Kiosk Lighting: 100 Watts.
- Pavilion: Lights and receptacle controlled by timer.
- Parking Lot Lighting: Six 250 watt pole lights.

Transformer 8: Add addition electrical load to panel P8A to include 40 fluorescent lights under the two covered storage areas.

Transformer 9: 25 KVA transformer feeding 200 amp panel P9. Panel P9 provides power to the following equipment:

- Panel P9A: 60 Amp.
    - Pavilion: Lights and receptacle controlled by timer.
    - Hut: Receptacles and lights, total 500 watts in each of four huts.
- Panel P9B: 60 Amp.
    - Includes receptacles, lights, air conditioner, pole light, and sign lighting..
- Pavilion: Lights and receptacle controlled by timer.
- Fuel pump: Assumed 6.25 amps.

- Fish Cleaning Lift Station: Two 1/3 hp pumps.
- Fish Cleaning: Power for grinders, receptacle or light, 500 watt.
- Dump Station Lot Lighting: Three 250 watt pole lights.
- Toilet Lighting: Two 250 watt pole lights.
- Dump Station Leach Field Treatment System: four 1/3 hp pumps.

Transformer 10: 75 KVA transformer feeding 400 amp panel P10. Panel P10 provides power to the following equipment:

- 11 RV power pedestals: 50/30/20 Amp
- Pavilion: Lights and receptacle controlled by timer.
- Lift station: Four 1/3 hp pumps.

Transformer 11: 75 KVA transformer feeding 400 amp panel P11. Panel P11 provides power to the following equipment:

- 12 RV power pedestals: 50/30/20 Amp

Transformer 12: 75 KVA transformer feeding 400 amp panel P12. Panel P12 provides power to the following equipment:

- 12 RV power pedestals: 50/30/20 Amp

Transformer 13: 75 KVA transformer feeding 400 amp panel P13. Panel P13 provides power to the following equipment:

- 12 RV power pedestals: 50/30/20 Amp

Telephone Considerations and Assumptions

Telephone service needs further investigation and development. There appears to be an easement through the property with a telephone pedestals on the eastern most fence line and another pedestal on the west side of the north section. It is assumed that these two pedestals, plus the underground telephone service and two splice boxes need to remain in service. All other telephone pedestals and underground telephone wire need to be removed. The concessionaire will need to coordinate with the telephone company to provide wiring and service.

Low Level Development

The low end buildout includes relocating the two splice boxes out of planned RV spurs and installing 2" conduit with pull string and pullboxes from one splice box to the store. A 2" spare conduit is also provided from the store to a pullbox for high end buildout.

High Level Development

The high end buildout includes extending the 2" spare conduit to the dump station fuel pump location for credit card use.

Miscellaneous Considerations and Assumptions

Propane

It is assumed that existing propane tanks and piping will be removed. The concessionaire will need to coordinate with a propane company to provide the tank and piping to the buildings.

Low Level Development

A 1000 gallon propane tank is located with piping to the store and toilet building. Propane is used by a furnace in the store and domestic water heaters in the toilet building. Tank installation cost is approximately [redacted] and includes primary and secondary regulators, and first 25 LF of piping. Additional piping can be installed in a customer provided trench for [redacted] LF.

High Level Development

Piping is provided to the Laundry/Shower building for domestic water heating.

Aboveground Storage Tanks

Low Level Development

1000 gallon double-wall concrete storage tank with fuel pump for gas sales is provided near the store (concessionaire provided).

High Level Development

- 1000 gallon double-wall concrete storage tank with fuel pump for gas sales is provided near the dump station (concessionaire provided).
- Double-wall gas pipe is provided from the fuel tank near the store to a fuel pump near the dock (concessionaire provided).

Plans

Plans were prepared for this feasibility design. Drawings depict both a low level of development and a high level of development. The low level development drawings show the existing terrain with a low level of development construction effort. The high level of development drawings show the low level of development as if it represented existing conditions, and augments the design with a secondary build out to move the site to the high level of development. Attachment 1 presents the plans prepared for this feasibility design.